



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/573,160

03/23/2006

Shunpei Yamazaki

740756-2936

6623

22204

7590

02/25/2008

NIXON PEABODY, LLP

401 9TH STREET, NW

SUITE 900

WASHINGTON, DC 20004-2128

EXAMINER

LEE, CALVIN

ART UNIT

PAPER NUMBER

2892

MAIL DATE

DELIVERY MODE

02/25/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/573,160	Applicant(s) YAMAZAKI, SHUNPEI	
	Examiner Calvin Lee	Art Unit 2892	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 23 January 2008 (Amendment).
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-100 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-100 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1/23/2008</u> . | 6) <input type="checkbox"/> Other: _____ |

FINAL ACTION

Response to Amendment

1. The amendment of claims 1-6 received on Jan 23, 2007 is acknowledged.

Claim Rejections - 35 U.S.C. § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious to one having skills in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention made.

3. Claims 1-100 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Kurimoto* (US 5,405,787) or *Kudo* (US 6,420,261), in view of *Seki* (US 6,624,071) and *APA* (Applicant Prior Art).

a) *Kurimoto* discloses a method for manufacturing a semiconductor device, comprising of:

- forming a first insulating film by discharging a composition including an insulator;
- forming a second insulating film **10** over the first insulating film **2** [Fig. 14(a)];
- forming a mask pattern **11** on the second insulating film [Fig. 14(b)]; and
- forming an opening by etching the first insulating film **2** by using the second insulating film **10** as a mask [Fig. 14(c) and col. 15, ln.7].

Kudo discloses a method for manufacturing a semiconductor device, comprising of:

- forming a first insulating film by discharging a composition including an insulator;
- forming a second insulating film **32** over the first insulating film **31** [Fig. 3F];
- forming a mask pattern **33** on the second insulating film [Fig. 3J]; and
- forming an opening by etching the first insulating film **31** by using the second insulating film **32** as a mask [Fig. 3K and col. 7, ln.47].

b) Both *Kurimoto* & *Kudo* teach discharging a composition to form an insulating film, but not selectively discharging the composition. Nevertheless, such selective discharging of a semiconductor material is known in the deposit processing art as evidenced by *Seki* disclosing “the thiol-based coupling agent layer **12** may be selectively formed by pattern-discharging a composition containing the thiol-based coupling agent on the substrate...” [Fig. 7 and col. 6, ln.45].

It would have been obvious to having skills in the art to have modified the deposit process in *Kurimoto* (as well as in *Kudo*) by utilizing a selective discharge for the purpose of depositing the material at a desired portion/section of the layer instead of all over the whole underlying layer.

c) None of the cited arts teaches or suggests a mask pattern by performing light-exposure. *APA* discloses forming a mask pattern by performing light-exposure and development.

It would have been obvious to one having skills in the art to utilize the teaching of *APA* (Applicant Prior Art) and thus arrive at the claimed invention. The motivation to do so would have been to form a small-size mask been etched using a well-known light-exposure technique.

4. All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.129(a) and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.129(a). Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the submission under 37 CFR 1.129(a). See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Response to Arguments

5. Applicant's arguments filed on Jan 23, 2008 have been fully considered but they are not persuasive. Although none of the cited arts explicitly teaches or suggests "forming a first insulating film by selectively discharging a composition...", *Seki* reference teaches the shortcoming of the cited arts (see the above rejections).

Moreover, the Examiner notes that by selectively discharging a composition onto a layer surface one having skills in the art would have discharged/deposited the composition onto a preferred portion of the layer (instead of onto the whole layer). The Examiner therefore takes the position that "selectively depositing" is nothing but an alternate way of deposit technique.

In addition, the specification contains no disclosure of either the critical nature of the claimed “selective discharging” of any unexpected result arising therefrom. Where patentability is said to be based upon particular chosen discharge technique or upon another technique recited in a claim, the Applicant must show that the chosen design choice is critical. *In re Woodruff*, 919 F.2d 1575, 16 USPQ Zd 1934, 1936 (Fed. Cir. 1990).

For the above reasons, it is believed that the rejections should be sustained.

Contact Information

6. Any inquiry concerning this communication from the Examiner should be directed to *Calvin Lee* at (571) 272-1896 on Mondays thru Thursdays 6:30-4:30PM. If attempts to reach the examiner by telephone are unsuccessful, Art Unit 2818's Supervisory Patent Examiner *Thao X. Le* can be reached at (571) 272-1708. The fax phone number for the organization (where this application is assigned to) is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAG or Public PAIR. For more information about the PAIR system, see <http://pair-direct.uspto.gov> Should you have questions on access to the PAG system, contact the Electronic Business Center (EBC) at 1-866-217-9197.

Dated: February 14, 2007

/Calvin Lee/

Primary Examiner, Art Unit 2892